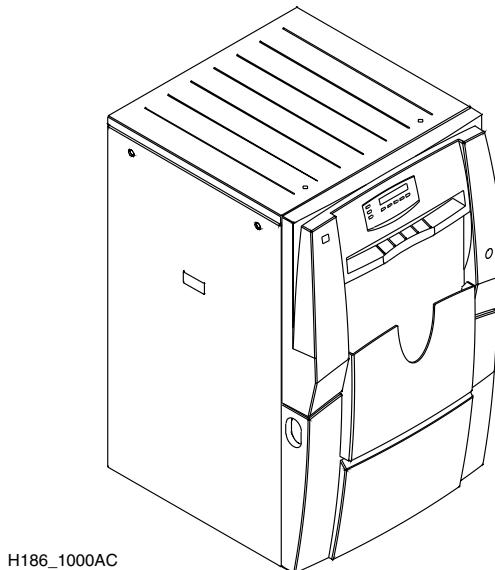


**SITE SPECIFICATIONS**  
for the  
***Kodak X-Omat MULTILOADER 7000***  
**Service Code: 3444**  
***Kodak X-Omat 3000 RA INTEGRATED***  
**PROCESSOR**  
**Service Code: 3466**  
***Kodak X-Omat MULTILOADER 7000***  
**DARKROOM FILM FEEDER**  
**Service Code: 3429**



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**PLEASE NOTE** The information contained herein is based on the experience and knowledge relating to the subject matter gained by Eastman Kodak Company prior to publication.

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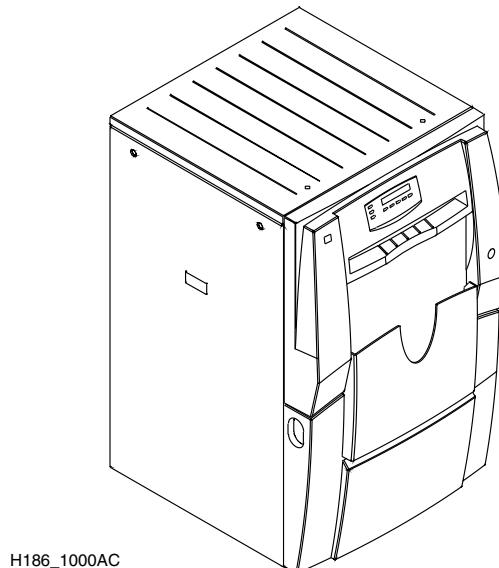
This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

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## Section 1: General Information

### Product Description



H186\_1000AC

The *Kodak X-Omat* MULTILOADER 7000 is a compact microprocessor-controlled room light film handling and film processing system. The MULTILOADER holds up to 7 FILM SUPPLY MAGAZINES and accepts all sizes of *Kodak X-Omatic* CASSETTES, *Kodak Min-R* 2/*Kodak Min-R* 2000 CASSETTES and *Kodak X-Omatic* VIDEO FILM HOLDERS.



#### Important

- The MULTILOADER has 4 nonadjustable CASTERS for rolling to the correct location.
- LEVELLING FEET are supplied to level the MULTILOADER once in the correct location.
- CASSETTES can extend out from the MULTILOADER up to 12 cm (5 in.) when returned to the operator after a load/unload cycle.

### Time of Load/Unload Cycle

Time of unloading and loading of the CASSETTE, the time between input and output of the CASSETTE, during a standard cycle is approximately 18 seconds. The time depends on the cycle of the PROCESSOR, film size and location of the MAGAZINE.

## Film Sizes

The MULTILOADER is delivered with 7 FILM SUPPLY MAGAZINES, which can be configured to the following film sizes.



### Important

The MAGAZINES must be loaded with film under safelight conditions.

- 35 x 43 cm
- 35 x 35 cm
- 30 x 40 cm\*
- 30 x 35 cm
- 24 x 30 cm
- 24 x 30 cm mammography
- 24 x 24 cm
- 20 x 40 cm\*
- 18 x 43 cm
- 18 x 24 cm
- 18 x 24 cm mammography
- 15 x 30 cm
- 11 x 14 in.\*
- 10 x 12 in.\*
- 8 x 10 in.
- 8 x 10 in. VIDEO FILM HOLDER (CRT)

\* These sizes may not be available in all countries.

## Installation

It is the responsibility of the customer to prepare the site correctly before the MULTILOADER is installed.

A Kodak Service Representative must approve the site preparation before installation. The customer will be notified of any areas that need further preparation.

If local labor regulations permit, installation of the MULTILOADER will be done by an authorized Kodak Service Representative. At installations where this is not possible, installation charges are the responsibility of the customer. A Kodak Service Representative will be on site to provide assistance, if required.

## Section 2: Regulatory Approvals

### U. S. A. Regulatory Requirements

- **UL 1950:** Safety of Information Technology Equipment, Including Electrical Business Equipment (Binational Standard) (PSA)
- **FCC Rules and Regulation, Title 47, Part 15, Subpart B, Class A:** Radio frequency devices: Unintentional Radiators (EMC)
- **21 CFR1040.10** Class 1: FDA CDRH Code of Federal Regulations Title 21, Volume 8, Chapter 1, Subchapter J, Food and Drugs, Part 1040 Performance Standards For Light-Emitting Products, Section 10 Laser Products (PSA)
- **FDA 95-415** Premarket Notification 510(K): Regulatory Requirements for Medical Devices

### European Regulatory Requirements

- **CE Mark 93/42/EEC** Title: Council Directive Concerning Medical Devices. (Medial Device Directive)
- **TUV Agency**
- **73/23/ECC** Title: Council Directive on the Harmonization of the Laws of Member States Relating to Electrical Equipment Designed for Use within Certain Voltage Limits. (Low Voltage Directive) (PSA).
- **EN60950:** Safety of Information Technology Equipment, Including Electrical Business. This is not a requirement, but rather a method of showing that the product meets the Low Voltage Directive. It is a part of the Low Voltage Directive.
- **EN 61000-3-2** (IEC 61000-3-2): Electromagnetic compatibility (EMC) - Part 3: Limits - Section 2: Limits for harmonic current emissions (equipment input current  $\leq 16A$  per phase)
- **EN 61000-3-3** (IEC 61000-3-3): Electromagnetic compatibility (EMC) - Part 3: Limits - Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current  $\leq 16 A$  (EMC)
- **EN 60601-1-2:1993** (IEC 601-3-2): Medical Equipment Part 2 Electromagnetic compatibility (references the remaining standards in the section) (EMC)
- **EN 55011-3-2** Class A: Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment (EMC)
- **EN 61000-4-2** (IEC 61000-4-2): Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 2: Electrostatic discharge immunity test. Basic EMC Publication.
- **EN 61000-4-4** (IEC 61000-4-4)(\*): Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 4: Electrical fast transient/burst immunity test. Basic EMC Publication.
- **EN 61000-4-5** (IEC 61000-4-5): Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 5: Surge immunity test.
- **EN60825-1:** Safety of laser products - Part 1: Equipment classification, requirements and User's Guide.

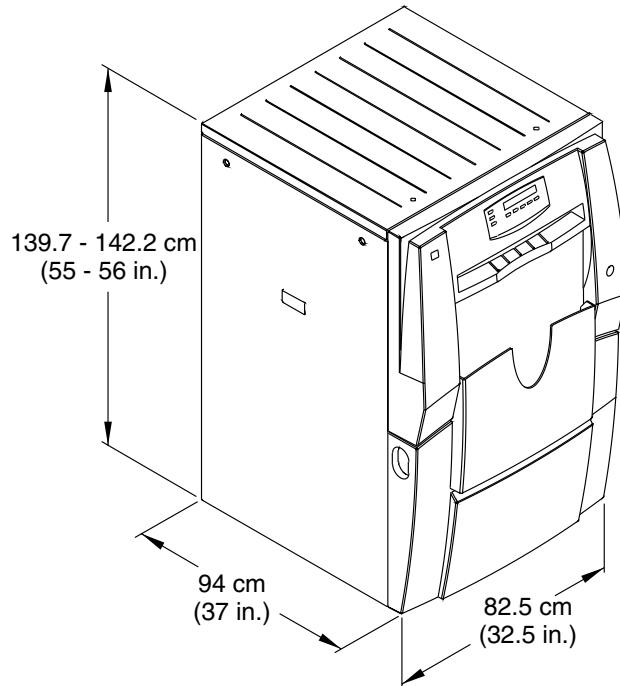
#### CE MARKING:

Documents concerning the conformance of this product to 93/42/EEC can be obtained from the Eastman Kodak Health Imaging European Representative at:

- Kodak AG  
Quality Services  
Product Safety  
70323 Stuttgart  
Germany

## Section 3: Equipment Specifications

### Dimensions



H186\_1091GC



#### Important

The PALLET is open on 2 sides and has a 13.5 cm (5.3 in.) GUARD RAIL on 3 sides. Remove the MULTILOADER from the PALLET on one side only.

**Table 1 Dimensions of the MULTILOADER 7000 with the 3000 RA INTEGRATED PROCESSOR**

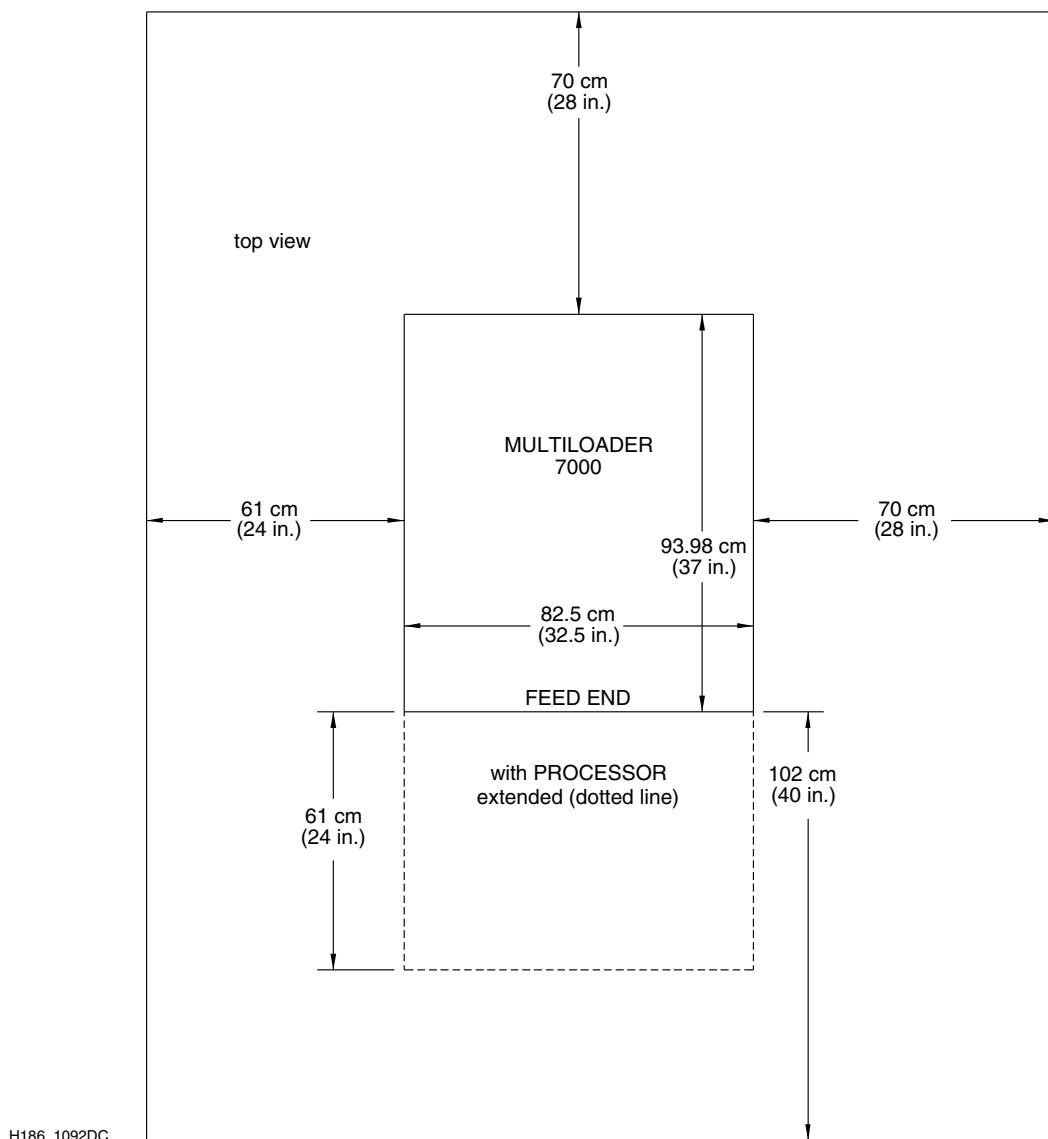
	Unpacked	Dimensions of the PALLET
Width	82.5 cm (32.5 in.)	97 cm (38 in.)
Height	139.7 - 142.2 cm (55 - 56 in.)	19 cm (8 in.)
Depth	94 cm (37 in.)	109 cm (43 in.)
Weight	470 kg (1037 lb) 515 kg (1135 lb) with full film load and solutions	



The clearance for the Fork-Lift Truck is:

- Width - 42 cm (17 in.)
- Height - 10 cm (4 in.)

## Clearances



### Important

- Adequate clearance around the MULTILOADER must be provided for service personnel. Insufficient clearance may reduce the effectiveness of the MULTILOADER.
- A smooth and flat floor is necessary to roll out the PROCESSOR.
- If the MULTILOADER is installed on a PEDESTAL, check that the PEDESTAL can support the rolled out PROCESSOR.

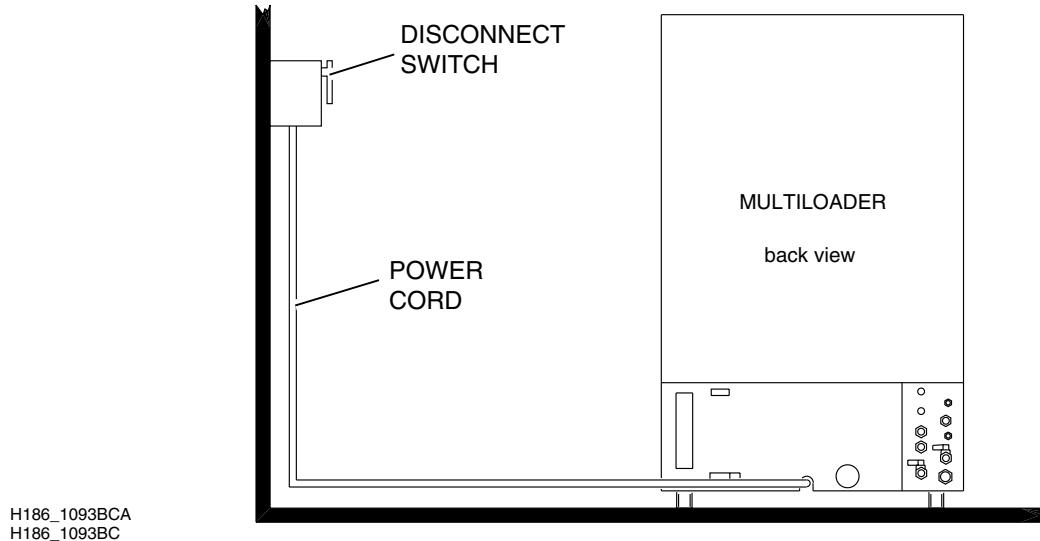
### Minimum Clearances

<b>Feed End:</b>	102 cm (40 in.)
<b>Left Side:</b>	61 cm (24 in.)
<b>Right Side:</b>	70 cm (28 in.)
<b>Back:</b>	70 cm (28 in.)
<b>Top:</b>	80 cm (31 in.)

## Section 4: Site Specifications

### Electrical Requirements

#### Main Power Disconnect



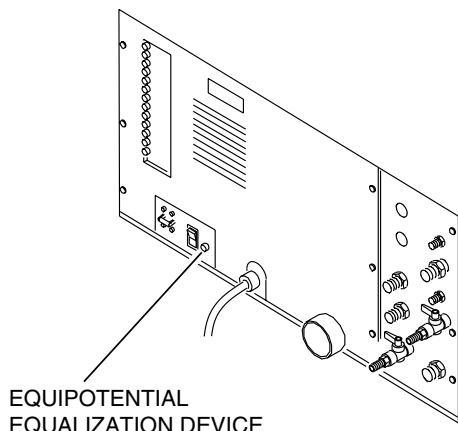
#### Warning

- All electrical services including earth ground must comply with local and national electric regulations.
- The MULTILOADER requires a dedicated locking type main power DISCONNECT SWITCH.
- The MULTILOADER should be connected to a dedicated main power DISCONNECT SWITCH according to local codes.
- The DISCONNECT SWITCH should be a thermomagnetic CIRCUIT BREAKER, or a FUSE DISCONNECT.
- The DISCONNECT SWITCH and the power source are not shipped with the MULTILOADER.
- Use a SAFETY GROUND WIRE for all service.
- Locate the CIRCUIT BREAKER a safe distance away from water.

**Ratings - CIRCUIT BREAKER**

				MAINS CIRCUIT BREAKER		
Note	System MAINS (V)	Frequency (Hz)	No. of Wires, not including GROUND WIRE	Europe Designation	Europe	U.S.
1	200	50/60	2	1/N/PE	32	30
1	220	50/60	2	1N/PE	32	30
1	230	50/60	2	1/N/PE	32	30
1	240	50/60	2	1/N/PE	32	30
3	200	50/60	2	2/PE	32	30
3	220	50/60	2	2/PE	32	30
3	230	50/60	2	2/PE	32	30
3	240	50/60	2	2/PE	32	30
2	200	50/60	3	3/PE	16	20
2	220	50/60	3	3/PE	16	20
4	380	50/60	4	3/N/PE	16	20
4	400	50/60	4	3/N/PE	16	30
4	415	50/60	4	3/N/PE	16	20
3	120/208	60	3	-	-	30
2	120/208	60	4	-	-	20
5	120/240	60	3	-	-	30
3	240	60	2	-	-	30

Note	Description
1	L1, N used in this configuration
2	L1, L2, L3 used in this configuration
3	L1, L2 used in this configuration
4	L1, L2, L3 and N used in this configuration
5	L1, L2, and N used in this configuration

**EQUIPOTENTIAL EQUALIZATION DEVICE - Europe Only**

According to European safety regulations for medical devices, the MULTILOADER must be connected to the site EQUIPOTENTIAL EQUALIZATION DEVICE if the MULTILOADER is operated within a distance of 1.85 m (6 ft) from a patient. The CONNECTING CABLE must be provided by the customer.

## Environmental Requirements

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### Temperature

**Recommended:** 18 - 24°C (65 - 75°F)

**Limits:** 15 - 35°C (59 - 95°F)

---

### Relative Humidity

Recommended: 20 - 60%

Film quality may be affected if the MULTILOADER is operated beyond the recommended environmental range.

Operational problems may be encountered if the temperature and relative humidity are beyond the recommended values.

Prolonged exposure to relative humidity above the recommended range may cause the film to double feed or to jam in the SUPPLY MAGAZINE.

---

### Floor Gradient

The maximum gradient of the floor on which the MULTILOADER is installed has to be below 1%. The floor must not slope more than 1 cm per meter (0.39 in. per 3.3 ft) in either direction. Otherwise, it will not be possible to roll out the PROCESSOR from the MULTILOADER.

---

### Lighting

**Maximum:** 465 ftc (5000 lux)

---

### Air and Heat

**Air:** To allow adequate air flow around the MULTILOADER, the room must provide at least 127m<sup>3</sup> (75 ft<sup>3</sup>) of air flow.

**Heat:** Approximately 1800 kJ/hour (1706 Btu/hour) in standby mode

Approximately 9700 kJ/hour (9194 Btu/hour) during operation

A portion is dissipated through the PROCESSOR, and is vented through the exhaust of the MULTILOADER, not into the room.

---

### Air Exhaust - full load

**Volume:** 2.124 L/min. (75 ft<sup>3</sup>/min.)

**Temperature:** 66°C (150°F) maximum

**Exhaust Adapter:** 7.62 cm (3 in.) diameter

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### Heat Load to Room

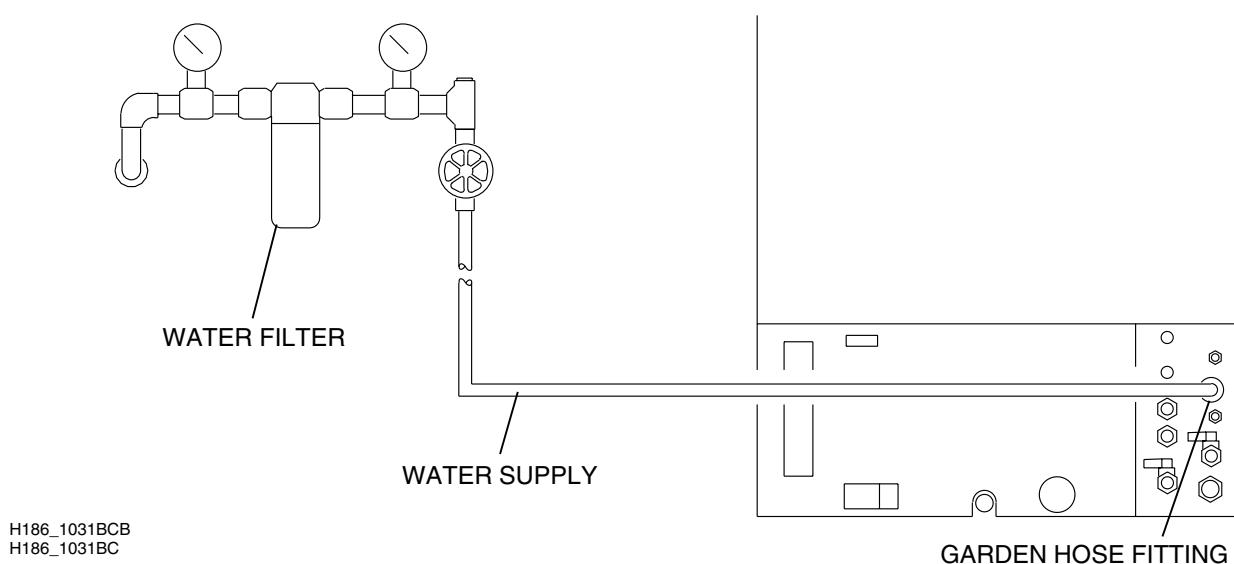
**Thermal load:** 4200 kj/hour (4000 Btu/hour)

## Requirements for the Water Supply and DRAIN



### Important

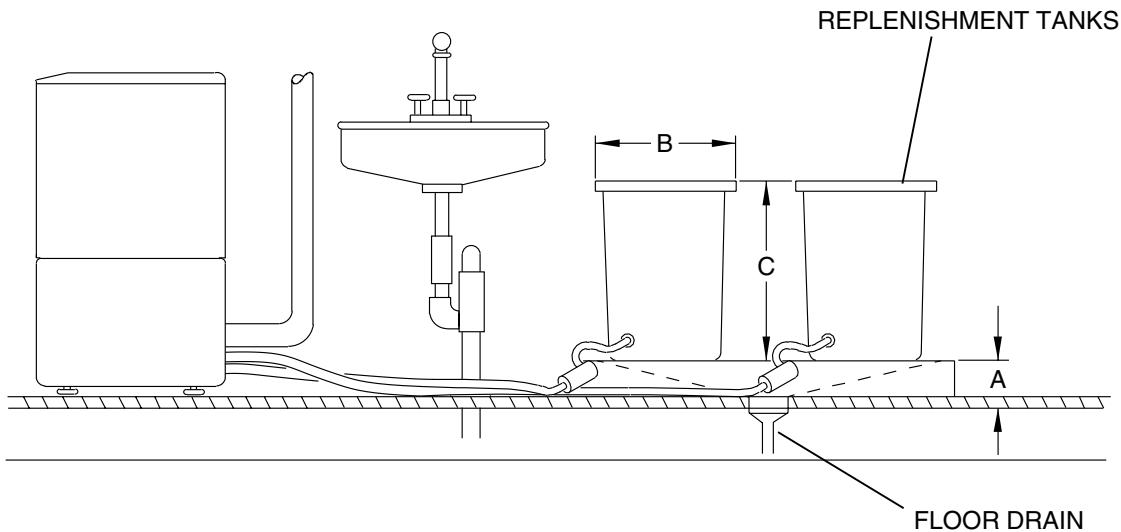
- Water supply must comply with local codes; iron piping is not recommended.
- If the upper limit of the water supply temperature is exceeded, a water chiller may be required.
- Tempered water service is suggested for cleaning the PROCESSOR and for mixing chemicals manually.
- Recommended water supply PIPE is 1/2 ID.
- DRAIN service must comply with local codes.
- Wash water DRAIN should be within 1.5 m (60 in.) of the PROCESSOR and the HOSE should slope gradually downward to the FLOOR DRAIN.
- Follow local plumbing codes.
- Do not use brass or copper for the DRAIN LINES, use corrosion resistant material.
- Do not make a solid connection between the DRAIN and the DRAIN TUBES from the MULTILOADER.
- Connection parts are not provided.
- The water supply CONNECTION FITTING on the MULTILOADER is a GARDEN HOSE FITTING.



<b>Water Temperature:</b>	Minimum 4°C (40°F) Maximum 29.5°C (85°F)
<b>Water Pressure:</b>	173 - 692 kPa (25 - 100 psi); install REGULATOR if required
<b>Water Flow Volume:</b>	Controlled within the PROCESSOR to 3.8 L/min (1.0 gal/min), +10% - 0%
<b>Water Filtration:</b>	50 micron FILTER required in the INPUT WATER LINE
<b>Water Check Valve:</b>	The PROCESSOR has an internal 127 mm (5 in.) water gap in the WASH RACK. A CHECK VALVE or VACUUM BREAKER should not be necessary, however, check and observe your local codes.
<b>Drain Capacity:</b>	15 L/min (4 gal/min)
<b>Drain Size:</b>	Minimum 76 mm (3 in.) diameter, corrosion resistant

## Requirements for the REPLENISHMENT TANK

Figure 1 Suggested Layout Plan



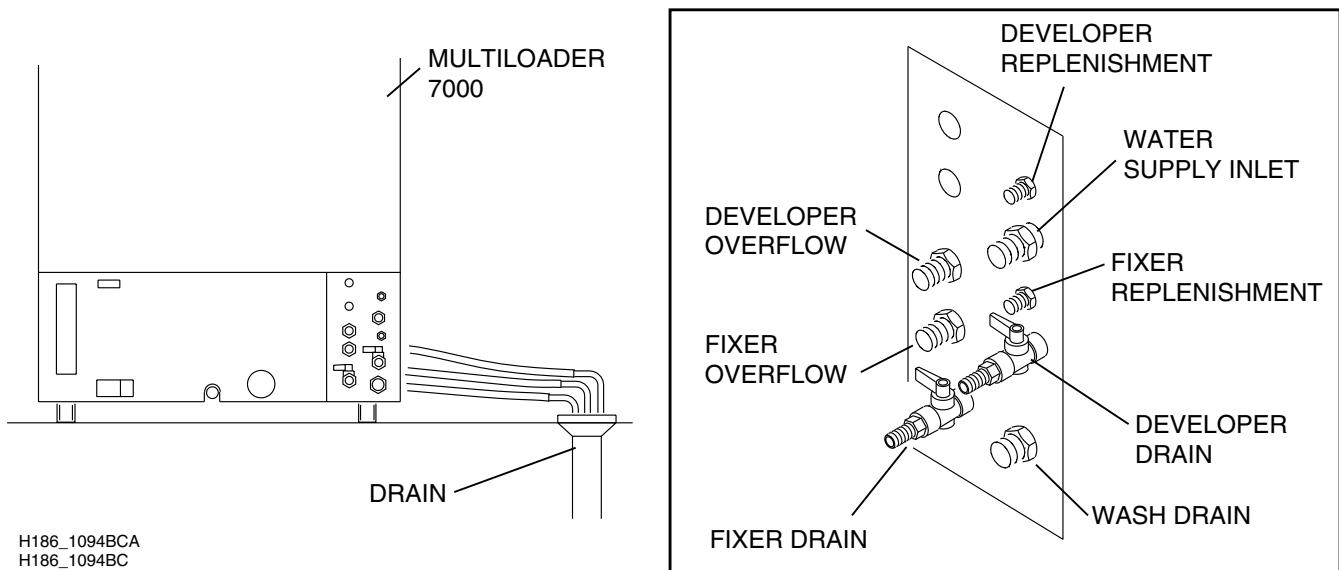
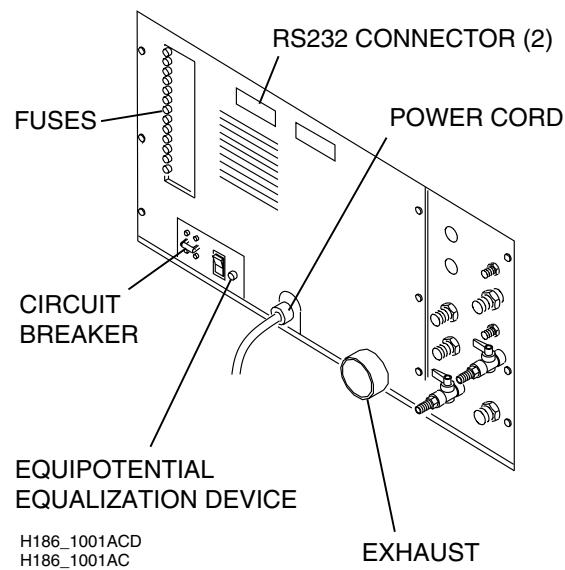
### Important

The level in the REPLENISHMENT TANKS is limited to 76 cm (30 in.) to eliminate unwanted flow through the REPLENISHMENT PUMPS.

Table 2 Dimensional Requirements for the REPLENISHMENT TANKS

Description	Dimension	Size of the REPLENISHMENT TANK		
		14 Gallons	30 Gallons	55 Gallons
Maximum Platform Height	“A”	483 mm (19 in.)	356 mm (14 in.)	152 mm (6 in.)
Diameter	“B”	432 mm (17 in.)	559 mm (22 in.)	610 mm (24 in.)
Height	“C”	584 mm (23 in.)	705 mm (27.75 in.)	908 mm (36 in.)
External Area	floor area	61 x 127 cm (24 x 50 in.)	61 x 152.4 cm (24 x 60 in.)	66 x 172.7 cm (26 x 68 in.)

## Building Services

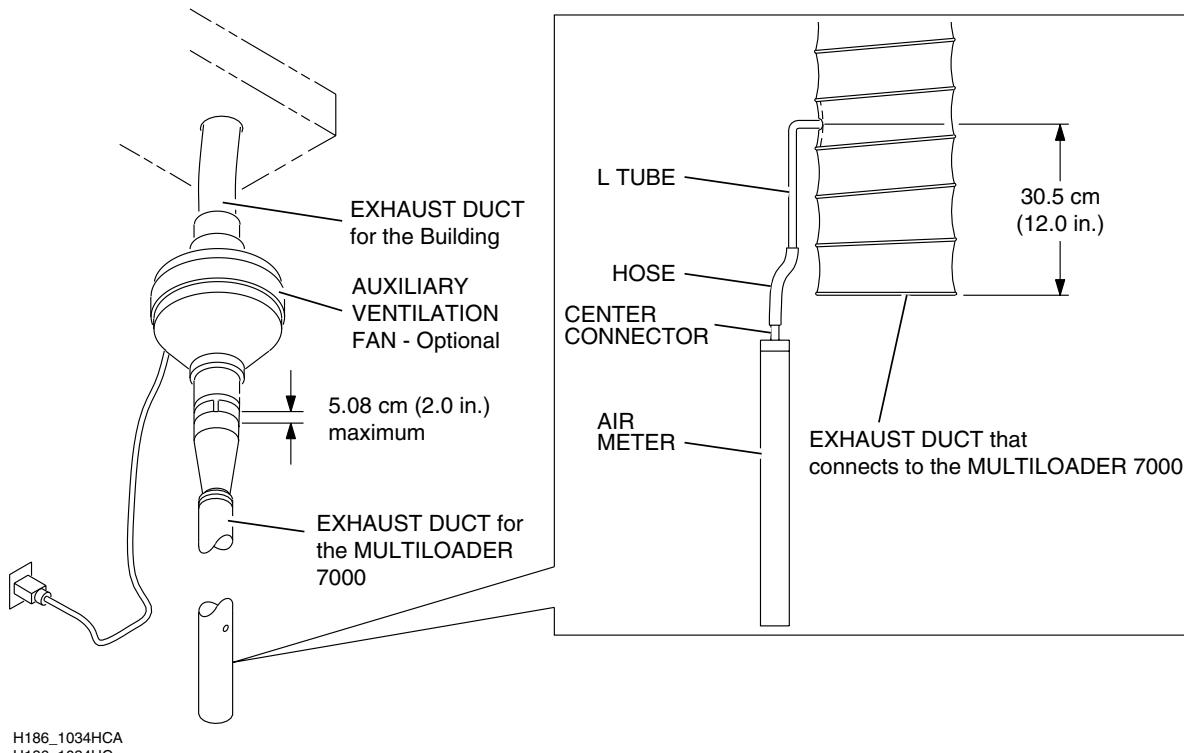


## Checking the Negative Static Pressure



### Important

- The MULTILOADER must have correct venting.
- All COVERS and PANELS must be installed for the correct air flow.
- If the venting is not correct, fumes may cause corrosion to the MULTILOADER.
- Do not install the system if the venting for the MULTILOADER is not correct.
- The air flow is correct when the fumes are flowing out of the MULTILOADER through the EXHAUST HOSE.
- Before installing or at the next service call, do the following procedure to check for correct air flow.



H186\_1034HCA  
H186\_1034HC



### Warning

#### Dangerous Voltage

- [1] Disconnect the main power.
- [2] Connect the HOSE from the CENTER CONNECTOR on the AIR METER TL-2431 to:
  - L TUBE
  - CENTER CONNECTOR



### Important

The AIR METER is held vertically.

- [3] Disconnect the EXHAUST DUCT from the MULTILOADER.
- [4] Make a 6.4 mm (0.25 in.) hole approximately 30.5 cm (12 in.) from the end of the EXHAUST DUCT that will be connected to the MULTILOADER.
- [5] Insert the L TUBE into the hole made in Step 4 until the end of the TUBE is flush with the inside of the EXHAUST DUCT.

[6] Check that the negative pressure is correct.

Diameter of the DUCT	Negative Pressure
7.6 cm (3.0 in.)	0.76 - 1.02 mm (0.03 - 0.04 in.) of water
10.2 cm (4.0 in.)	0.25 - 0.51 mm (0.01 - 0.02 in.) of water

[7] If necessary, adjust the distance between the EXHAUST DUCT for the building and the EXHAUST DUCT for the PROCESSOR until the negative pressure is correct. If you cannot obtain the correct negative pressure, the customer must install an AUXILIARY VENTILATION FAN.

Accessory	Part Number
<i>Kodak</i> AUXILIARY VENTILATION FAN KIT - 110 V AC, 60 Hz Includes AIR GAP ASSEMBLY 264519	264503
<i>Kodak</i> AUXILIARY VENTILATION FAN KIT- 95 - 250 V AC, 47 - 63 Hz Includes AIR GAP ASSEMBLY 264519	8B7105
AIR GAP ASSEMBLY	264519

[8] Remove the L TUBE from the EXHAUST DUCT and seal the remaining hole.

[9] Connect the EXHAUST DUCT to the AIR EXHAUST on the PROCESSOR.

## Section 5: Accessories

### DARKROOM FILM FEEDER

#### Note

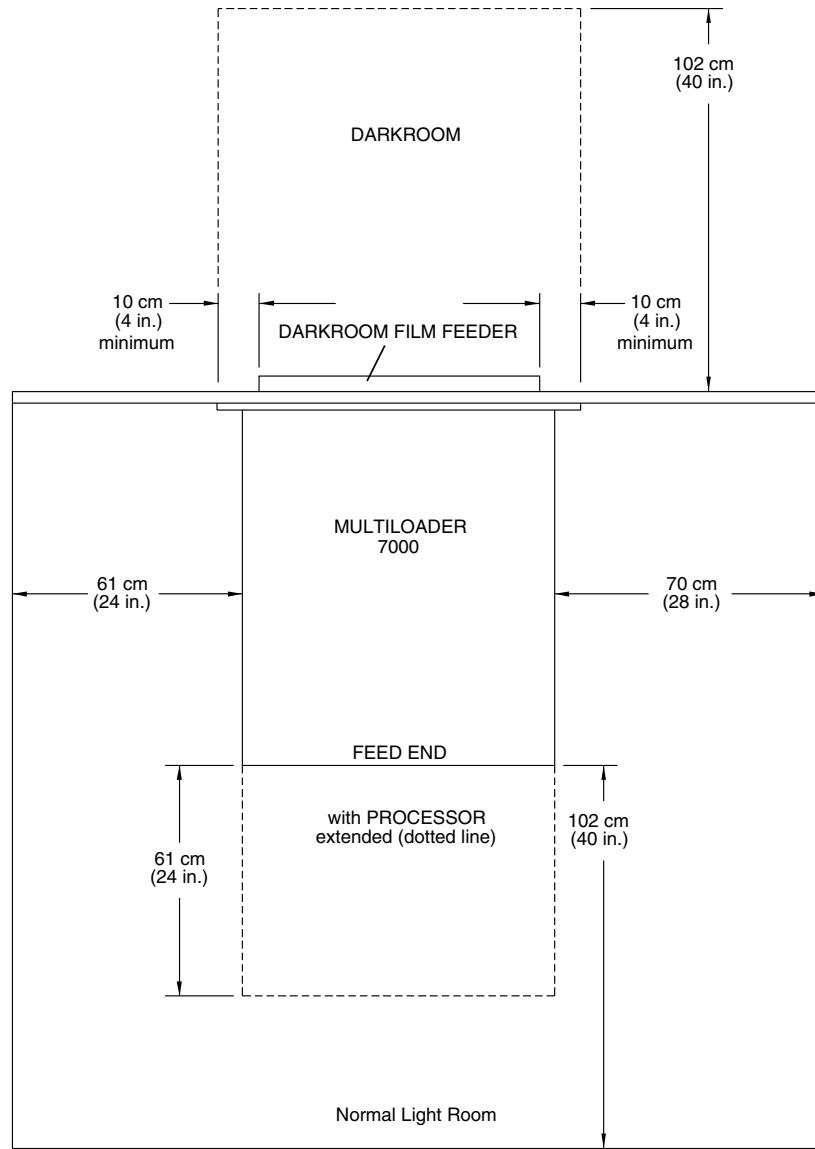
- The following instructions are for the through the wall installation of the DARKROOM FILM FEEDER.
- For installation of the STAND-ALONE DARKROOM FILM FEEDER, see the “Installation Instructions for the STAND-ALONE DARKROOM FILM FEEDER”, 1F1510.

### Clearances



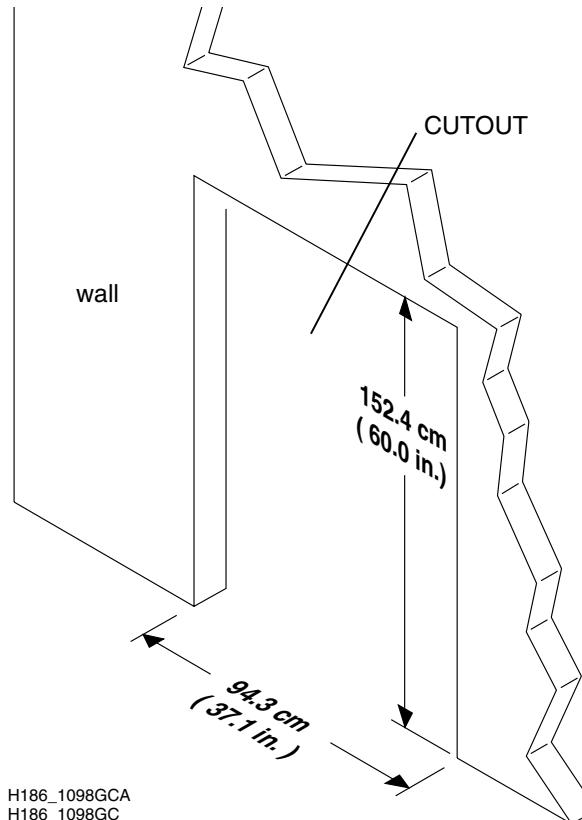
#### Important

- Adequate clearance around the MULTILOADER must be provided for service personnel. Insufficient clearance may reduce the effectiveness of the MULTILOADER.
- A smooth and flat floor is necessary to roll out the PROCESSOR.
- A minimum clearance of 10 cm (3.93 in.) between the side of the DARKROOM FILM FEEDER and the wall is required.

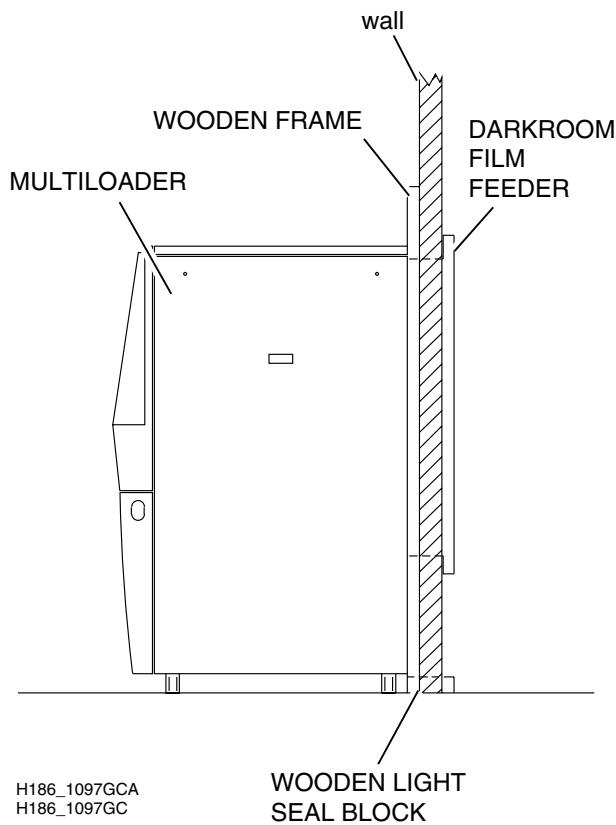


**Table 3 Minimum Clearances**

<b>Left Side:</b>	10 cm (4 in.)
<b>Right Side:</b>	10 cm (4 in.)
<b>Feed End:</b>	102 cm (40 in.)

**CUTOOUT in the Wall**

[1] See the graphic for the correct size of the CUTOOUT in the wall.



 **Important**

- The DARKROOM FILM FEEDER is mounted to the MULTILOADER through the wall using a WOODEN FRAME and is made light tight with FOAM and SEALANT.
- All services for electricity, water, drain and exhaust must be supplied through the dark room.

[2] If the SUPPLY LINES are routed from under the back of the MULTILOADER, check that there is a minimum distance of 60 mm (2.4 in.) between the back side of the WOODEN FRAME and the SUPPLY LINE.

 **Note**

This distance is necessary for the WOODEN LIGHT SEAL BLOCK at the bottom.

## Publication History

Publication Date	Publication No.	ECO No.	Changed Pages	File Name	Notes
16FEB01	5E9997	----	All	ss3444_1_16feb01.fm	First Printing
12OCT01	5E9997	----	All	5e9997.fm	Revised

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